

## WHAT IS CLAIMED IS:

1. An exposure apparatus which performs alignment on a substrate on first and second stages, and performs predetermined exposure processing using the substrate  
5 aligned on said second stage, comprising:

a first alignment unit to detect a position of a mark on a substrate placed on said first stage by using a first image sensing unit, and perform alignment on said substrate based on the result of detection;

- 10 a transfer unit to transfer said substrate, aligned by said first alignment unit, from said first stage onto said second stage; and

- a second alignment unit to detect the position of said mark on said substrate placed on said second stage  
15 by using a second image sensing unit having higher magnification than that of said first stage, and perform alignment on said substrate based on the result of detection.

- 20 2. The apparatus according to claim 1, when said substrate, aligned by said first alignment unit, has been transferred to said second stage by said transfer unit, the position of said mark on said substrate has predetermined positional relation to a reference  
25 position of said second image sensing unit.

3. The apparatus according to claim 2, wherein said first and second image sensing units and said transfer unit are controlled such that when said substrate has been transferred to said second stage by said transfer unit, said mark on said substrate exists within a view range of said second image sensing unit.

4. The apparatus according to claim 2, wherein said first and second image sensing units and said transfer unit are controlled such that when said substrate has been transferred to said second stage by said transfer unit, said mark on said substrate exists within a view range of said second image sensing unit, by moving said second stage by a predetermined amount.

15

5. The apparatus according to claim 1, wherein said first alignment unit performs alignment based on an outer form shape of said substrate, then performs the image sensing and measurement on said mark on said substrate, and performs the alignment on said substrate.

20

6. The apparatus according to claim 5, wherein said first alignment unit drives said first stage based on the result of image sensing and measurement on the mark on said substrate so as to bring the mark to a predetermined reference position.

25

7. The apparatus according to claim 5, wherein said first alignment unit further performs alignment based on outer form shape of said substrate such that the mark on said substrate exist within a view range of  
5 said first image sensing unit.

8. An aligning method for aligning a substrate by using first and second stages, comprising:

a first alignment step of detecting a position of  
10 a mark on a substrate placed on said first stage by using a first image sensing unit, and performing alignment on said substrate based on the result of detection;

a transfer step of transferring said substrate,  
15 aligned at said first alignment step, from said first stage to said second stage by a transfer unit; and

a second alignment step of detecting the position of said mark on said substrate placed on said second stage by using a second image sensing unit having  
20 higher magnification than that of said first image sensing unit, and perform alignment on said substrate based on the result of detection.

9. The method according to claim 8, when said  
25 substrate, aligned at said first alignment step, has been transferred to said second stage by said transfer unit, the position of said mark on said substrate has

predetermined positional relation to a reference position of said second image sensing unit.

10. The method according to claim 9, wherein said  
5 first and second image sensing units and said transfer unit are controlled such that when said substrate has been transferred to said second stage by said transfer unit, said mark on said substrate exists within a view range of said second image sensing unit,

10 and wherein at said second alignment step, when said substrate has been transferred at said transfer step, detection of the position of said mark by said second image sensing unit is started without search for said mark.

15

11. The method according to claim 9, wherein said first and second image sensing units and said transfer unit are controlled such that when said substrate has been transferred to said second stage by said transfer  
20 unit, said mark on said substrate exists within a view range of said second image sensing unit, by moving said second stage by a predetermined amount,

and wherein at said second alignment step, when said substrate has been transferred at said transfer  
25 step, said second stage is driven by said predetermined amount, and then detection of the position of said mark

by said second image sensing unit is started without search for said mark.

12. The method according to claim 8, wherein at said  
5 first alignment step, alignment is performed based on an outer form shape of said substrate, then the image sensing and measurement on the mark on said substrate are performed, and the alignment is performed on said substrate.

10

13. The method according to claim 12, wherein at said first alignment step, said first stage is driven based on the result of image sensing and measurement on said mark on said substrate so as to bring said mark to a  
15 predetermined reference position.

14. The method according to claim 12, wherein at said first alignment step, alignment is further performed based on outer form shape of said substrate such that  
20 said mark on said substrate exist within a view range of said first image sensing unit.